METHOD AND SYSTEM FOR FINGERPRINT TEMPLATE MATCHING

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ABSTRACT

A method for matching templates and a system thereof. Each template includes a plurality of data chunks, each data chunk representing a minutia and comprising a location, a minutia angle and a neighborhood. The location is represented by two coordinates. In one embodiment, each coordinate and the minutia angle are quantized. The neighborhood includes positional parameters with respect to a selected minutia for a predetermined number of neighbor minutiae. In one embodiment, a neighborhood boundary is drawn around the selected minutia and neighbor minutiae are selected from the enclosed area. A reference template is compared to a measured template on a chunk-by-chunk basis. A chunk from each of the template is loaded into a random access memory (RAM). The location, minutia angle and neighborhood of the reference data chunk are compared with the location, minutia angle and neighborhood of the measured data chunk, respectively. In one embodiment, the comparison uses straight subtractions. If the differences for all the parameters meet their respective predetermined tolerances, the measured data chunk matches the reference data chunk. If the number of data chunk matches is equal to or is greater than a predetermined data chunk match rate, the measured template matches the reference template. The neighborhoods are compared by comparing each positional parameter. If all the positional parameters match, the neighbors match. If a predetermined number of neighbor matches is met, the neighborhoods match.